SPECIFICATION AMENDMENTS

Please amend the specification as follows:

Please replace the paragraph that begins on line 24 of page 3 with the following amended paragraph:

The Mach-Zehnder interferometer is a multi/demultiplexing circuit with uniform frequency period as will be described below. The two optical output powers of the Mach-Zehnder interferometer are given by the following expressions.

$$[[|A|^2 = |A_0|^2 \sin^2(\varphi/2)]] \qquad \underline{|A|^2 = |A_0|^2 \sin^2(\xi/2)} \qquad (1)$$

$$[[|B|^2 = |A_0|^2 \cos^2(\varphi/2)]] \qquad \underline{|B|^2 = |A_0|^2 \cos^2(\xi/2)} \qquad (2)$$

where A_0 is the intensity of light input to one of the input ports, and [[ϕ]] ξ is the phase given by the optical delay line.

Please replace the paragraph that begins on line 7 of page 4 with the following amended paragraph:

Using the relationship of $f = c/\lambda$, [[ϕ]] ξ is given by the following expression.

$$[[\varphi = \frac{2\pi}{\lambda} n\Delta L = \frac{2\pi n \Delta L}{c} f_m \,]] \qquad \underline{\xi = \frac{2\pi}{\lambda} n\Delta L = \frac{2\pi n \Delta L}{c} f_m} \qquad (3)$$

where n is a refractive index, ΔL is a path length difference, f is a frequency, c is the speed of light, λ is the wavelength, and m is an integer.

Please replace the paragraph that begins on line 25 of page 27 with the following amended paragraph:

The embodiments of the present invention will now be described in detail with reference to the accompanying drawings. In the following description, an "optical multi/demultiplexing device" refers to a circuit configured by optical couplers and ~~an~~ optical delay lines ~~device~~; a "phase generating device" refers to a device for generating a phase [[ϕ]] Φ; and a "phase generating optical coupler" refers to a circuit functioning as the phase generating device and optical ~~coupler~~ multi/demultiplexing device.

Please replace the paragraph that begins on line 18 of page 33 with the following amended paragraph:

For example, when carrying out an approximation using a quadratic polynomial, the curve of Fig. 9 is approximated as follows by the phase [[ϕ]] Ψ as a result of a multiple regression analysis.

$$[[\Phi \cong 8.12\times10^{-6}\lambda^2 - 0.025\lambda + 19.2]] \qquad \Psi \cong 8.12\times10^{-6}\lambda^2 - 0.025\lambda + 19.2 \quad (7)$$

It is obvious that the polynomial used is not limited to the quadratic function or a function of a higher order, and any desired function can be used for the approximation. For example, the approximation using a Gaussian function gives the following phase correction amount [[ϕ]] Ψ.

$$[[\Phi \cong 0.122 - \frac{37.94}{186.5\sqrt{0.5\pi}}\exp\left[\frac{-2(x-1539.54)^2}{186.5^2}\right]]]$$

$$\Psi \cong 0.122 - \frac{37.94}{186.5\sqrt{0.5\pi}}\exp\left[\frac{-2(x-1539.54)^2}{186.5^2}\right] \qquad (7)$$

Please replace the paragraph that begins on line 6 of page 43 with the following amended paragraph:

The least square approximation was used to optimize the phase [[ϕ]] $\underline{\Psi}$ needed to compensate for the deviation between the uniform wavelength period and uniform frequency period:

[[$\phi \cong 8.12 \times 10^{-6}\lambda^2 - 0.025\lambda + 19.2$]] $\underline{\Psi \cong 8.12 \times 10^{-6}\lambda^2 - 0.025\lambda + 19.2}$